

Java Enum Keyword(Enumerations)

(List of constant variables)

مجموعات

A Java **Enum** is a **special** Java type used to define collections of **constants**.

يمثل

An **Enum** is a **special "class"** that represents a group of **constants** (**unchangeable variables, like final variables**).

for example:

Day {SATURDAY, SUNDAY, MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY}

Country { JORDAN, PALESTINE, SYRIA, EGYPT, IRAQ, ALGERIA, YEMEN }

City { AMMAN, JERUSALEM, DAMASCUS, CAIRO, BAGHDAD, ALGIERS, SANA'A }

Size { SMALL , MEDIUM, LARGE, EXTRA_LARGE, DOUBLE_EXTRA_LARGE }

Season { WINTER, SPRING, SUMMER, FALL }

Currency {JOD, SYP, EGP, IQD, DZD, YER}

Java Enum Keyword

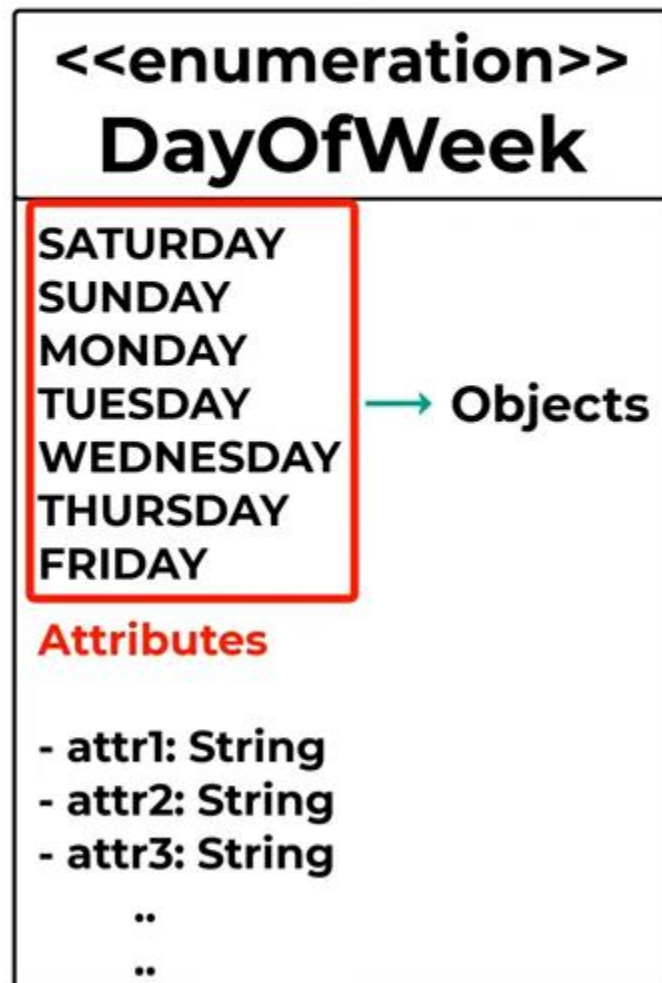
Java 5 first introduced the enum keyword (**JDK 1.5**)



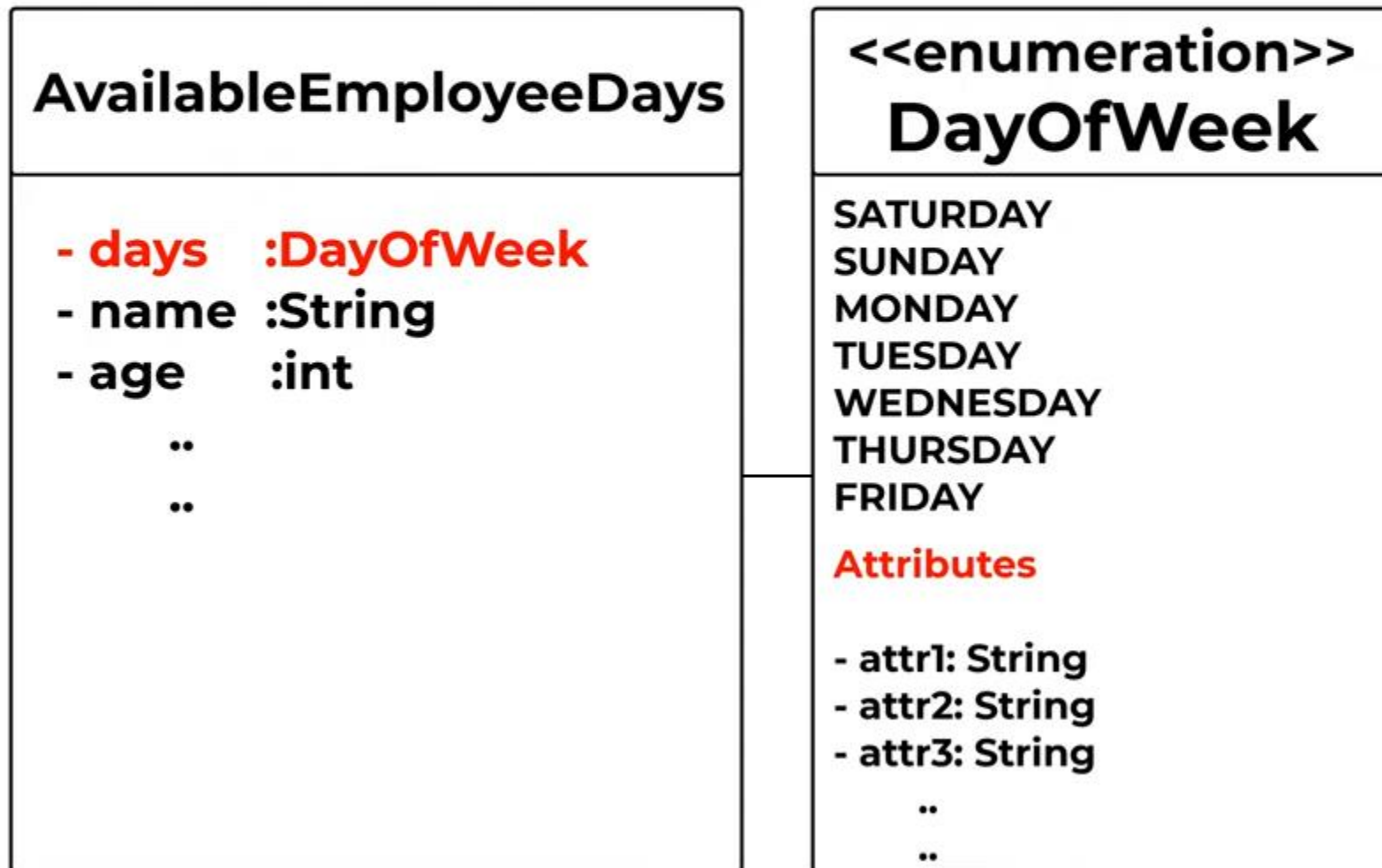
In Java (from 1.5), **enums** are represented using enum data type. **Java enums are more powerful** than C/C++ enums.

Java Enum Keyword

(UML)



Java Enum Keyword (UML)



Java Enum Keyword

Defining Java Enum

The enum can be defined **within or outside the class** because it is similar to a class.

```
enum DayOfWeek {  
    SATURDAY, SUNDAY, MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY ;  
}
```

```
enum Numbers {  
    ONE, TWO, THREE  
}
```



```
class Numbers {  
    public static final Numbers ONE = new Numbers( );  
  
}
```

Because it is Static, We Can Access ONE , TWO , THREE in this way
Number.ONE ;

Benefits of using Enums in Java:

- **Enum is type-safe** you can not assign anything else other than predefined Enum constants to an Enum variable.

```
enum DayOfWeek { SUNDAY, MONDAY, TUESDAY, WEDNESDAY, THURSDAY, FRIDAY, SATURDAY }
```

```
DayOfWeek day = "SUNDAY";
```



```
DayOfWeek day = DayOfWeek.SUNDAY;
```



Benefits of using Enums in Java:

- **Enum is type-safe** you can not assign anything else other than predefined Enum constants to an Enum variable.
- The best feature of Enum is **you can use Enum in Java inside Switch statements** like int or char primitive data type.

The main objective of enum is to define our own data types (Enumerated Data Types).

Difference between Enums and Classes:

An **enum** can, just like a **class**, have **attributes** and **methods**. The only difference is that enum constants are **public**, **static** and **final** (unchangeable - cannot be overridden).

An **enum cannot be used to create objects**, and **it cannot extend other classes** (but it can implement interfaces).

- We can declare the **main() method** inside the enum.

```
enum Number {  
  
    ONE, TWO, THREE;  
  
    public static void main(String[] args)  
    {  
        Number n1 = Number.ONE;  
        System.out.println(n1);  
    }  
}
```

enum Vs Enum Vs Enumeration :

enum :

enum is a keyword which can be used to define a group of named constants.

Enum :

It is a class present in java.lang package .

Every enum in java is the direct child class of this class.

Hence this Enum class acts as base class for all java enum's.

Enumeration :

It is a interface present in java.util package .

We can use Enumeration to get the objects one by one from the Collections.